SUBJECT INDEX TO VOLUME 132

METHODS

Theoretical

	9
) 3	31
) 3	31
) 3	31
) :	31
)	9
) 42	23
) 43	35
) 4	27
)	1
)	1
-	
9	9) 4. 9) 9)

Non-equilibrium thermodynamic and hydrodynamic theories		
Study of nonequilibrium vibrational relaxation of CO2 molecules during adiabatic expan-		
sion in a supersonic nozzle. The Treanor type distribution - existence and generation,		
A. Cenian	132 (1989)	41
Ab initio sahawas for stationary manaries		
Ab initio schemes for stationary properties		
Theoretical spectroscopic constants for the low-lying states of the oxides and sulfides of		
Mo and Tc, S.R. Langhoff, C.W. Bauschlicher Jr., L.G.M. Pettersson and		
P.E.M. Siegbahn	132 (1989)	49
Computational and simulation methods		
Electronic bath theory: multi-orbital primary zone, H.K. McDowell	132 (1989)	59
The fluid mechanics of photothermal systems, S.J. Jacobs	132 (1989)	71
	132 (1969)	/ 1
Fractal analysis of Brownian dynamics simulations of diffusion-controlled reactions,	100 (1000)	0.0
M.A. López-Quintela, M.C. Buján-Núñez and J.C. Pérez-Moure	132 (1989)	83
The intramicellar fluorescence quenching in cylindrical micelles. II, M. Van der Auweraer,		
S. Reekmans, N. Boens and F.C. De Schryver	132 (1989)	91
Low energy dynamics, isotopic effects and detailed microscopic reaction mechanism of the		
ion-molecule reaction N ⁺ (³ P)+H ₂ →NH ⁺ +H, M. González, A. Aguilar and R. Sayós	132 (1989)	137
The effect of reagent vibrational excitation on the oscillatory behavior and other dynam-	()	
ical properties of the light-atom-transfer reactions Cl+HCl→ClH+Cl and		
	122 (1000)	152
O+HCl→OH+Cl, H. Kornweitz and A. Persky	132 (1989)	153
Molecular dynamics and scattering theory		
Analytical and numerical solutions of the time-dependent Debye-Smoluchowski equation		
for transport-influenced reactions: ion-ion recombination, M.R. Flannery and		
E.J. Mansky	132 (1989)	115
	132 (1909)	113
Low energy dynamics, isotopic effects and detailed microscopic reaction mechanism of the	100 (1000)	
ion-molecule reaction N ⁺ (³ P)+H ₂ →NH ⁺ +H, M. González, A. Aguilar and R. Sayós	132 (1989)	137
The effect of reagent vibrational excitation on the oscillatory behavior and other dynam-		
ical properties of the light-atom-transfer reactions Cl+HCl→ClH+Cl and		
O+HCl→OH+Cl, H. Kornweitz and A. Persky	132 (1989)	153
The mechanical origin of the propensity rule for vibrational predissociation of van der Waals	,	
molecules, D.A. Morales	132 (1989)	165
	132 (1969)	103
Couplings between normal modes studied by the correlation function. Duschinsky effect	400 (4000)	
and Fermi resonance, V.B. Pavlov-Verevkin, B. Leyh and J.C. Lorquet	132 (1989)	1/5
Large r approximation for spherically averaged momentum distributions, M.E. Casida and		
D.P. Chong	132 (1989)	391
On the reliability of a reasonable single surface treatment of the reaction		
$C^+(^2P) + H_2(X^1\Sigma_g^+) \rightarrow CH^+ + H$ at relative energies from the threshold region up to 2.0		
eV, M. González and A. Aguilar	132 (1989)	443
or, in Contact and it regular	132 (1707)	113
T		
Experimental		
Magnetic resonances		
Symmetry-adapted bases over Liouville space. IV. Projection superoperators and invari-		
ance hierarchies for \mathcal{L}_4 and $\mathcal{L}_4[\times]\mathcal{L}_4$ groups: a characterization of $[A]_4$ and $[AX]_4$ spin		
systems, F.P. Temme	132 (1989)	9
systems, 1.1. remine	132 (1707)	,

A quasi-neutral triplet state of TCNQ in phenazine/TCNQ and fluorene/TCNQ CT crys-	
tals, D. Gundel, J. Frick, J. Krzystek, H. Sixl, J.U. von Schütz and H.C. Wolf Effect of orientational relaxation on optical polarization of electron spins in the gas phase.	132 (1989) 363
S.A. Sukhenko and A.A. Zharikov	132 (1989) 427
Infrared spectroscopy	
The structure of CO_2 – C_2 H $_2$ from near infrared spectroscopy, Z.S. Huang and R.E. Miller IR–IR double resonance experiments on SF $_6$ and SiF $_4$ clusters, B. Heijmen, A. Bizzarri,	132 (1989) 185
S. Stolte and J. Reuss	132 (1989) 331
Vibrational predissociation of size-selected SF ₆ clusters, F. Huisken and M. Stemmler Dynamics of the reaction of atomic fluorine with azomethane: an IR-chemiluminescence	132 (1989) 351
study, U. Schwanke, H. Heydtmann and J.J. Sloan	132 (1989) 413
Visible and UV spectroscopy	
Coherent surface fluorescence versus thermally activated energy transfer to the bulk in the anthracene crystal: model calculations and some experimental results, L. David,	
J. Bernard, M. Orrit and Ph. Kottis Rotationally resolved laser-induced fluorescence excitation studies of CH ₃ O, J. Kappert	132 (1989) 31
and F. Temps	132 (1989) 197
A quasi-neutral triplet state of TCNQ in phenazine/TCNQ and fluorene/TCNQ CT crystals, D. Gundel, J. Frick, J. Krzystek, H. Sixl, J.U. von Schütz and H.C. Wolf Dissociative excitation of HgX radicals and Hg atoms during collisions of CO ⁺ ions and	132 (1989) 363
HgX ₂ /CH ₃ HgX (X=Cl, Br, I) molecules, V. Kushawaha and A. Michael ω_1 scaling law near a molecular dissociation limit: theory and experimental tests in Cl ₂ B	132 (1989) 373
state, G. Gouédard, B. Girard, N. Billy and J. Vigué	132 (1989) 385
Fluorescence spectroscenu	
Fluorescence spectroscopy The intramicellar fluorescence quenching in cylindrical micelles. II, M. Van der Auweraer,	
S. Reekmans, N. Boens and F.C. De Schryver	132 (1989) 91
Rotationally resolved laser-induced fluorescence excitation studies of CH ₃ O, J. Kappert and F. Temps	132 (1989) 197
Ortho-para iodine separation revisited, J.L. Booth, F.W. Dalby, S. Parmar and	122 (1090) 200
J. Vanderlinde Prompt fluorescence from biphenylene in liquid solution: absence of detectable $S_2 \rightarrow S_0$ fluorescence and its implications, vibrational structure and polarization of $S_1 \rightarrow S_0$ fluorescence.	132 (1989) 209
rescence, and orientational relaxation of molecules in S_1 , B. Nickel and J. Hertzberg Delayed $S_1 \rightarrow S_0$ and $S_2 \rightarrow S_0$ fluorescence, delayed excimer fluorescence, and phosphores-	132 (1989) 219
cence from biphenylene, J. Hertzberg and B. Nickel	132 (1989) 235
Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. II. The ground- and excited-state interactions of fluorophores with ordered environment.	
A discussion of the published experimental data, J.J. Fisz Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. III.	132 (1989) 303
Multifractional distribution of fluorophores in lyotropic liquid crystals. Two kinds of ground-state order parameters, J.J. Fisz	132 (1989) 315
G. Carre Crack businesses, etc. 1 and	(, 5.0
Photoelectron and Auger spectroscopy	
Couplings between normal modes studied by the correlation function. Duschinsky effect	132 (1989) 175
and Fermi resonance, V.B. Pavlov-Verevkin, B. Leyh and J.C. Lorquet	132 (1969) 1/3

Tunneling and shape resonance phenomena in the UV photoelectron spectra of HF and DF, H.J. Bakker, O. Grabandt and C.A. de Lange	132 (1989) 243
Variable energy photoelectron study of the valence levels of CF ₃ X (X=F, Cl, Br, I) compounds between 21 and 200 eV photon energies, J.D. Bozek, G.M. Bancroft, J.N. Cutler,	132 (1969) 243
K.H. Tan, B.W. Yates and J.S. Tse	132 (1989) 257
X-ray spectroscopy	
The quantitative Jahn-Teller distortion of the Cu ²⁺ site in aqueous solution by XANES spectroscopy, J. Garcia, M. Benfatto, C.R. Natoli, A. Bianconi, A. Fontaine and H. Tolentino	132 (1989) 295
Electron impact spectroscopy	
Excitation and ionization of the monohaloethylenes (C ₂ H ₃ X, X=F, Cl, Br, I). I. Innershell excitation by electron energy loss spectroscopy, K.H. Sze, C.E. Brion and A. Katrib	132 (1989) 271
Large r approximation for spherically averaged momentum distributions, M.E. Casida and D.P. Chong	132 (1989) 391
Laser methods	
ω_{ν} scaling law near a molecular dissociation limit: theory and experimental tests in Cl ₂ B state, G. Gouédard, B. Girard, N. Billy and J. Vigué	132 (1989) 385
Kinetics of methylidyne (CH $X^2\Pi$) radical reactions with ammonia and methylamines, S. Zabarnick, J.W. Fleming and M.C. Lin	132 (1989) 407
Multiple resonance spectroscopy	
Symmetry-adapted bases over Liouville space. IV. Projection superoperators and invariance hierarchies for \mathcal{L}_4 and \mathcal{L}_4 groups: a characterization of [A] ₄ and [AX] ₄ spin	122 (1000) 0
systems, F.P. Temme	132 (1989) 9
Atomic and molecular beam techniques	
The structure of CO ₂ -C ₂ H ₂ from near infrared spectroscopy, Z.S. Huang and R.E. Miller IR-IR double resonance experiments on SF ₆ and SiF ₄ clusters, B. Heijmen, A. Bizzarri,	132 (1989) 185
S. Stolte and J. Reuss Vibrational predissociation of size-selected SF ₆ clusters, F. Huisken and M. Stemmler	132 (1989) 331 132 (1989) 351
ω_v scaling law near a molecular dissociation limit: theory and experimental tests in Cl ₂ B	132 (1969) 331
state, G. Gouédard, B. Girard, N. Billy and J. Vigué	132 (1989) 385
Dynamics of the reaction of atomic fluorine with azomethane: an IR-chemiluminescence	
study, U. Schwanke, H. Heydtmann and J.J. Sloan	132 (1989) 413
Time-resolved experiments	
The intramicellar fluorescence quenching in cylindrical micelles. II, M. Van der Auweraer,	
S. Reekmans, N. Boens and F.C. De Schryver Couplings between normal modes studied by the correlation function. Duschinsky effect	132 (1989) 91
and Fermi resonance, V.B. Pavlov-Verevkin, B. Leyh and J.C. Lorquet	132 (1989) 175
Measurement of macroscopic variables	
Activation energy of the dc conductivity in quasi-one-dimensional molecular semicon-	
ductors. II. Two radical electrons per dimer, V.M. Yartsev and A. Graja	132 (1989) 423

OBJECTS

Bulk systems

Gases	
The fluid mechanics of photothermal systems, S.J. Jacobs Analytical and numerical solutions of the time-dependent Debye-Smoluchowski equation for transport-influenced reactions: ion-ion recombination, M.R. Flannery and	132 (1989) 71
E.J. Mansky	132 (1989) 115
Tunneling and shape resonance phenomena in the UV photoelectron spectra of HF and	
DF, H.J. Bakker, O. Grabandt and C.A. de Lange	132 (1989) 243
Effect of orientational relaxation on optical polarization of electron spins in the gas phase, S.A. Sukhenko and A.A. Zharikov	132 (1989) 427
Supersonic beams	
Study of nonequilibrium vibrational relaxation of CO ₂ molecules during adiabatic expansion in a supersonic nozzle. The Treanor type distribution – existence and generation,	
A. Cenian	132 (1989) 41
The structure of CO ₂ -C ₂ H ₂ from near infrared spectroscopy, Z.S. Huang and R.E. Miller	132 (1989) 185
Liquids neat	
Group theoretical statistical mechanics applied to couette flow, M.W. Evans	132 (1989) 1
Liquid mixtures and solutions	
Prompt fluorescence from biphenylene in liquid solution: absence of detectable $S_2 \rightarrow S_0$ fluorescence and its implications, vibrational structure and polarization of $S_1 \rightarrow S_0$ fluorescence, and orientational relaxation of molecules in S_1 , B. Nickel and J. Hertzberg	132 (1989) 219
Delayed $S_1 \rightarrow S_0$ and $S_2 \rightarrow S_0$ fluorescence, delayed excimer fluorescence, and phosphores-	
cence from biphenylene, J. Hertzberg and B. Nickel The quantitative Jahn-Teller distortion of the Cu ²⁺ site in aqueous solution by XANES	132 (1989) 235
spectroscopy, J. Garcia, M. Benfatto, C.R. Natoli, A. Bianconi, A. Fontaine and	
H. Tolentino	132 (1989) 295
Crystals	
A quasi-neutral triplet state of TCNQ in phenazine/TCNQ and fluorene/TCNQ CT crystals, D. Gundel, J. Frick, J. Krzystek, H. Sixl, J.U. von Schütz and H.C. Wolf	132 (1989) 363
-neat	
Coherent surface fluorescence versus thermally activated energy transfer to the bulk in the anthracene crystal: model calculations and some experimental results, L. David, J. Bernard, M. Orrit and Ph. Kottis	132 (1989) 31
Liquid crystals	
Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. II.	
The ground- and excited-state interactions of fluorophores with ordered environment.	
A discussion of the published experimental data, J.J. Fisz	132 (1989) 303

Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. III. Multifractional distribution of fluorophores in lyotropic liquid crystals. Two kinds of ground-state order parameters, J.J. Fisz	132 (1989) 315
Surfaces	
Coherent surface fluorescence versus thermally activated energy transfer to the bulk in the anthracene crystal: model calculations and some experimental results, L. David, J. Bernard, M. Orrit and Ph. Kottis	132 (1989) 31
Electronic bath theory: multi-orbital primary zone, H.K. McDowell	132 (1989) 59
Low-dimensional materials	
Activation energy of the dc conductivity in quasi-one-dimensional molecular semicon- ductors. II. Two radical electrons per dimer, V.M. Yartsev and A. Graja	132 (1989) 423
Microscopic systems	
Atoms	
Low energy dynamics, isotopic effects and detailed microscopic reaction mechanism of the ion-molecule reaction N ⁺ (³ P)+H ₂ →NH ⁺ +H, M. González, A. Aguilar and R. Sayós Dissociative excitation of HgX radicals and Hg atoms during collisions of CO ⁺ ions and	132 (1989) 137
HgX_2/CH_3HgX (X=Cl, Br, I) molecules, V. Kushawaha and A. Michael On the reliability of a reasonable single surface treatment of the reaction $C^+(^2P)+H_2(X^1\Sigma_g^+)\rightarrow CH^++H$ at relative energies from the threshold region up to 2.0	132 (1989) 373
eV, M. González and A. Aguilar	132 (1989) 443
Molecules (neutral and ionic)	
Analytical and numerical solutions of the time-dependent Debye-Smoluchowski equation for transport-influenced reactions: ion-ion recombination, M.R. Flannery and	
E.J. Mansky Dissociative excitation of HgX radicals and Hg atoms during collisions of CO ⁺ ions and	132 (1989) 115
HgX ₂ /CH ₃ HgX (X=Cl, Br, I) molecules, V. Kushawaha and A. Michael Effect of orientational relaxation on optical polarization of electron spins in the gas phase,	132 (1989) 373
S.A. Sukhenko and A.A. Zharikov	132 (1989) 427
-diatomic	
Theoretical spectroscopic constants for the low-lying states of the oxides and sulfides of Mo and Tc, S.R. Langhoff, C.W. Bauschlicher Jr., L.G.M. Pettersson and	
P.E.M. Siegbahn Low energy dynamics, isotopic effects and detailed microscopic reaction mechanism of the	132 (1989) 49
ion-molecule reaction N ⁺ (³ P)+H ₂ →NH ⁺ +H, M. González, A. Aguilar and R. Sayós Ortho-para iodine separation revisited, J.L. Booth, F.W. Dalby, S. Parmar and	132 (1989) 137
J. Vanderlinde	132 (1989) 209
Tunneling and shape resonance phenomena in the UV photoelectron spectra of HF and DF, H.J. Bakker, O. Grabandt and C.A. de Lange	132 (1989) 243
ω_{ν} scaling law near a molecular dissociation limit: theory and experimental tests in Cl ₂ B state, G. Gouédard, B. Girard, N. Billy and J. Vigué	132 (1989) 385

On the reliability of a reasonable single surface treatment of the reaction	
$C^{+}(^{2}P) + H_{2}(X^{1}\Sigma_{g}^{+}) \rightarrow CH^{+} + H$ at relative energies from the threshold region up to 2.0	
eV, M. González and A. Aguilar	132 (1989) 443
-small polyatomics	
Variable energy photoelectron study of the valence levels of CF ₃ X (X=F, Cl, Br, I) com-	
pounds between 21 and 200 eV photon energies, J.D. Bozek, G.M. Bancroft, J.N. Cutler,	
K.H. Tan, B.W. Yates and J.S. Tse	132 (1989) 257
Excitation and ionization of the monohaloethylenes (C ₂ H ₃ X, X=F, Cl, Br, I). I. Inner-	
shell excitation by electron energy loss spectroscopy, K.H. Sze, C.E. Brion and A. Katrib	132 (1989) 271
Large r approximation for spherically averaged momentum distributions, M.E. Casida and	
D.P. Chong	132 (1989) 391
-aromatics	
Prompt fluorescence from biphenylene in liquid solution: absence of detectable $S_2 \rightarrow S_0$ flu-	
orescence and its implications, vibrational structure and polarization of $S_1 \rightarrow S_0$ fluo-	
rescence, and orientational relaxation of molecules in S ₁ , B. Nickel and J. Hertzberg	132 (1989) 219
Delayed $S_1 \rightarrow S_0$ and $S_2 \rightarrow S_0$ fluorescence, delayed excimer fluorescence, and phosphores-	(.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
cence from biphenylene, J. Hertzberg and B. Nickel	132 (1989) 235
Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. II.	132 (1707) 233
The ground- and excited-state interactions of fluorophores with ordered environment.	
A discussion of the published experimental data, J.J. Fisz	132 (1989) 303
Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. III.	152 (1707) 505
Multifractional distribution of fluorophores in lyotropic liquid crystals. Two kinds of	
ground-state order parameters, J.J. Fisz	132 (1989) 315
Contribution of the relativistic mass correction to the g tensor of molecules, R. Angstl	132 (1989) 435
common of the remarkable mass correction to the greatest of molecules, at range	132 (1909) 130
Molecular aggregates	
-dimers	
IR-IR double resonance experiments on SF ₆ and SiF ₄ clusters, B. Heijmen, A. Bizzarri,	
S. Stolte and J. Reuss	132 (1989) 331
Activation energy of the dc conductivity in quasi-one-dimensional molecular semicon-	
ductors. II. Two radical electrons per dimer, V.M. Yartsev and A. Graja	132 (1989) 423
-van der Waals molecules	
The mechanical origin of the propensity rule for vibrational predissociation of van der Waals	
molecules, D.A. Morales	132 (1989) 165
The structure of CO ₂ -C ₂ H ₂ from near infrared spectroscopy, Z.S. Huang and R.E. Miller	132 (1989) 185
-clusters	
IR-IR double resonance experiments on SF ₆ and SiF ₄ clusters, B. Heijmen, A. Bizzarri,	
S. Stolte and J. Reuss	132 (1989) 331
Vibrational predissociation of size-selected SF ₆ clusters, F. Huisken and M. Stemmler	132 (1989) 351
Free radicals (including hydronium and muonium)	
Rotationally resolved laser-induced fluorescence excitation studies of CH ₃ O, J. Kappert	
and F. Temps	132 (1989) 197

Kinetics of methylidyne (CH $X^2\Pi$) radical reactions with ammonia and methylamines, S. Zabarnick, J.W. Fleming and M.C. Lin	132 (1989) 407
PHENOMENA	
Molecular structure	
Theoretical spectroscopic constants for the low-lying states of the oxides and sulfides of Mo and Tc, S.R. Langhoff, C.W. Bauschlicher Jr., L.G.M. Pettersson and	132 (1989) 49
P.E.M. Siegbahn The quantitative Jahn-Teller distortion of the Cu ²⁺ site in aqueous solution by XANES spectroscopy, J. Garcia, M. Benfatto, C.R. Natoli, A. Bianconi, A. Fontaine and	132 (1989) 49
H. Tolentino	132 (1989) 295
Vibrational predissociation of size-selected SF ₆ clusters, F. Huisken and M. Stemmler	132 (1989) 351
Vibrations and rotations of molecules	
The structure of CO ₂ -C ₂ H ₂ from near infrared spectroscopy, Z.S. Huang and R.E. Miller Rotationally resolved laser-induced fluorescence excitation studies of CH ₃ O, J. Kappert	132 (1989) 185
and F. Temps	132 (1989) 197
Prompt fluorescence from biphenylene in liquid solution: absence of detectable $S_2 \rightarrow S_0$ fluorescence and its implications, vibrational structure and polarization of $S_1 \rightarrow S_0$ fluorescence.	(1.0.7)
rescence, and orientational relaxation of molecules in S_1 , B. Nickel and J. Hertzberg Delayed $S_1 \rightarrow S_0$ and $S_2 \rightarrow S_0$ fluorescence, delayed excimer fluorescence, and phosphores-	132 (1989) 219
cence from biphenylene, J. Hertzberg and B. Nickel	132 (1989) 235
ω_v scaling law near a molecular dissociation limit: theory and experimental tests in Cl ₂ B state, G. Gouédard, B. Girard, N. Billy and J. Vigué	132 (1989) 385
Electronic structure and states	
Electronic bath theory: multi-orbital primary zone, H.K. McDowell	132 (1989) 59
Variable energy photoelectron study of the valence levels of CF ₃ X (X=F, Cl, Br, I) compounds between 21 and 200 eV photon energies, J.D. Bozek, G.M. Bancroft, J.N. Cutler,	
K.H. Tan, B.W. Yates and J.S. Tse	132 (1989) 257
Excitation and ionization of the monohaloethylenes (C ₂ H ₃ X, X=F, Cl, Br, I). I. Inner- shell excitation by electron energy loss spectroscopy, K.H. Sze, C.E. Brion and A. Katrib	132 (1989) 271
Large r approximation for spherically averaged momentum distributions, M.E. Casida and	132 (1989) 271
D.P. Chong	132 (1989) 391
Electric and magnetic properties	
Symmetry-adapted bases over Liouville space. IV. Projection superoperators and invariance hierarchies for \mathcal{L}_4 and $\mathcal{L}_4 \setminus \mathcal{L}_4 \setminus \mathcal{L}_4$ groups: a characterization of $[A]_4$ and $[AX]_4$ spin	
systems, F.P. Temme	132 (1989) 9
A quasi-neutral triplet state of TCNQ in phenazine/TCNQ and fluorene/TCNQ CT crys-	
tals, D. Gundel, J. Frick, J. Krzystek, H. Sixl, J.U. von Schütz and H.C. Wolf	132 (1989) 363
Activation energy of the dc conductivity in quasi-one-dimensional molecular semicon-	
ductors. II. Two radical electrons per dimer, V.M. Yartsev and A. Graja	132 (1989) 423
Contribution of the relativistic mass correction to the g tensor of molecules, R. Angstl	132 (1989) 435

132 (1989) 209

Molecular interactions The effect of reagent vibrational excitation on the oscillatory behavior and other dynamical properties of the light-atom-transfer reactions CI+HCI-CIH+Cl and O+HCl→OH+Cl, H. Kornweitz and A. Persky 132 (1989) 153 Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. II. The ground- and excited-state interactions of fluorophores with ordered environment. A discussion of the published experimental data, J.J. Fisz 132 (1989) 303 Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. III. Multifractional distribution of fluorophores in lyotropic liquid crystals. Two kinds of ground-state order parameters, J.J. Fisz 132 (1989) 315 IR-IR double resonance experiments on SF₆ and SiF₄ clusters, B. Heijmen, A. Bizzarri, S. Stolte and J. Reuss 132 (1989) 331 Spectral bandshapes and intensities Tunneling and shape resonance phenomena in the UV photoelectron spectra of HF and DF, H.J. Bakker, O. Grabandt and C.A. de Lange 132 (1989) 243 Energy transfer processes Study of nonequilibrium vibrational relaxation of CO2 molecules during adiabatic expansion in a supersonic nozzle. The Treanor type distribution - existence and generation, 132 (1989) 41 Analytical and numerical solutions of the time-dependent Debye-Smoluchowski equation for transport-influenced reactions: ion-ion recombination, M.R. Flannery and 132 (1989) 115 E.J. Mansky The effect of reagent vibrational excitation on the oscillatory behavior and other dynamical properties of the light-atom-transfer reactions Cl+HCl→ClH+Cl and 132 (1989) 153 O+HCl→OH+Cl, H. Kornweitz and A. Persky The mechanical origin of the propensity rule for vibrational predissociation of van der Waals 132 (1989) 165 molecules, D.A. Morales Molecular photophysical processes Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. II. The ground- and excited-state interactions of fluorophores with ordered environment. 132 (1989) 303 A discussion of the published experimental data, J.J. Fisz Fluorescence depolarization in macroscopically ordered uniaxial molecular samples. III. Multifractional distribution of fluorophores in lyotropic liquid crystals. Two kinds of 132 (1989) 315 ground-state order parameters, J.J. Fisz Effect of orientational relaxation on optical polarization of electron spins in the gas phase, S.A. Sukhenko and A.A. Zharikov 132 (1989) 427 Intramolecular dynamics

Ortho-para iodine separation revisited, J.L. Booth, F.W. Dalby, S. Parmar and

-radiationless transitions

J. Vanderlinde

-vibrational energy redistribution (including vibrational dissociation)	
Study of nonequilibrium vibrational relaxation of CO ₂ molecules during adiabatic expan-	
sion in a supersonic nozzle. The Treanor type distribution - existence and generation,	
A. Cenian	132 (1989) 41
The mechanical origin of the propensity rule for vibrational predissociation of van der Waals	,
molecules, D.A. Morales	132 (1989) 165
The structure of CO ₂ -C ₂ H ₂ from near infrared spectroscopy, Z.S. Huang and R.E. Miller	132 (1989) 185
Vibrational predissociation of size-selected SF ₆ clusters, F. Huisken and M. Stemmler	132 (1989) 351
Luminescence spectra, yields and lifetimes	
Coherent surface fluorescence versus thermally activated energy transfer to the bulk in the	
anthracene crystal: model calculations and some experimental results, L. David,	
J. Bernard, M. Orrit and Ph. Kottis	132 (1989) 31
Theoretical spectroscopic constants for the low-lying states of the oxides and sulfides of	102 (1707) 51
Mo and Tc, S.R. Langhoff, C.W. Bauschlicher Jr., L.G.M. Pettersson and	
P.E.M. Siegbahn	132 (1989) 49
Prompt fluorescence from biphenylene in liquid solution: absence of detectable $S_2 \rightarrow S_0$ flu-	(1707) 17
orescence and its implications, vibrational structure and polarization of $S_1 \rightarrow S_0$ fluo-	
rescence, and orientational relaxation of molecules in S ₁ , B. Nickel and J. Hertzberg	132 (1989) 219
Delayed $S_1 \rightarrow S_0$ and $S_2 \rightarrow S_0$ fluorescence, delayed excimer fluorescence, and phosphores-	(,
cence from biphenylene, J. Hertzberg and B. Nickel	132 (1989) 235
Dynamics of the reaction of atomic fluorine with azomethane: an IR-chemiluminescence	(,
study, U. Schwanke, H. Heydtmann and J.J. Sloan	132 (1989) 413
Reactions (including dissociation)	
The fluid mechanics of photothermal systems, S.J. Jacobs	132 (1989) 71
Kinetics of methylidyne (CH X2II) radical reactions with ammonia and methylamines,	, , , , , ,
S. Zabarnick, J.W. Fleming and M.C. Lin	132 (1989) 407
-gas phase	
Analytical and numerical solutions of the time-dependent Debye-Smoluchowski equation	
for transport-influenced reactions: ion-ion recombination, M.R. Flannery and	
E.J. Mansky	132 (1989) 115
Low energy dynamics, isotopic effects and detailed microscopic reaction mechanism of the	
ion-molecule reaction N ⁺ (³ P)+H ₂ →NH ⁺ +H, M. González, A. Aguilar and R. Sayós	
The effect of reagent vibrational excitation on the oscillatory behavior and other dynam-	
ical properties of the light-atom-transfer reactions Cl+HCl→ClH+Cl and	
O+HCl→OH+Cl, H. Kornweitz and A. Persky	132 (1989) 153
Ortho-para iodine separation revisited, J.L. Booth, F.W. Dalby, S. Parmar and	
J. Vanderlinde	132 (1989) 209
Kinetics of methylidyne (CH X ² Π) radical reactions with ammonia and methylamines,	
S. Zabarnick, J.W. Fleming and M.C. Lin	132 (1989) 407
Dynamics of the reaction of atomic fluorine with azomethane: an IR-chemiluminescence	
study, U. Schwanke, H. Heydtmann and J.J. Sloan	132 (1989) 413
On the reliability of a reasonable single surface treatment of the reaction $C^{+}(^{2}P) + H(X^{1}\Sigma^{+})$, $CH^{+} + H$ at relative energies from the threshold region up to 2.0	
$C^+(^2P) + H_2(X^1\Sigma_g^+) \rightarrow CH^+ + H$ at relative energies from the threshold region up to 2.0 eV. M. González and A. Aguilar	132 (1989) 443
eV, M. González and A. Aguilar	132 (1989) 443

-condensed phase		
Fractal analysis of Brownian dynamics simulations of diffusion-controlled reactions,		
M.A. López-Quintela, M.C. Buján-Núñez and J.C. Pérez-Moure	132 (1989)	83
-photochemical		
The fluid mechanics of photothermal systems, S.J. Jacobs	132 (1989)	71
The intramicellar fluorescence quenching in cylindrical micelles. II, M. Van der Auweraer,		
S. Reekmans, N. Boens and F.C. De Schryver	132 (1989)	91
Tunnelling		
Tunneling and shape resonance phenomena in the UV photoelectron spectra of HF and		
DF, H.J. Bakker, O. Grabandt and C.A. de Lange	132 (1989)	243
Ionization (including Rydberg states)		
Excitation and ionization of the monohaloethylenes (C2H3X, X=F, Cl, Br, I). I. Inner-		
shell excitation by electron energy loss spectroscopy, K.H. Sze, C.E. Brion and A. Katrib	132 (1989)	271
Large r approximation for spherically averaged momentum distributions, M.E. Casida and		
D.P. Chong	132 (1989)	391
Molecular motion (including diffusive)		
Group theoretical statistical mechanics applied to couette flow, M.W. Evans	132 (1989)	1
The intramicellar fluorescence quenching in cylindrical micelles. II, M. Van der Auweraer,		
S. Reekmans, N. Boens and F.C. De Schryver	132 (1989)	91
Isotopic effects		
Low energy dynamics, isotopic effects and detailed microscopic reaction mechanism of the	122 (1090)	127
ion-molecule reaction N ⁺ (³ P)+H ₂ →NH ⁺ +H, M. González, A. Aguilar and R. Sayós	132 (1989)	13/
On the reliability of a reasonable single surface treatment of the reaction $C^+(^2P) + H_2(X^{\dagger}\Sigma_{g}^+) \rightarrow CH^+ + H$ at relative energies from the threshold region up to 2.0		
eV, M. González and A. Aguilar	132 (1989)	443
C., M. Common and M. Game	100 (1707)	
Fluctuations and noise		
Electronic bath theory: multi-orbital primary zone, H.K. McDowell	132 (1989)	59